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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,571	07/28/2000	Haixiang Liang	30.7*6/DBP/B600	2336

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EXAMINER

CHANG, EDITH M

ART UNIT PAPER NUMBER

2611

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/627,571

Applicant(s)

LIANG, HAIXIANG

Examiner

Edith M. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-26 and 29-36 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 27-28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20060124.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see page 11, filed January 12, 2006, with respect to claims 1-36, have been fully considered and are persuasive. The objection of claims 1-19, 26, and 30-36, and the 112 rejection of claims 2-8, 13-17, 20-29 and 34-35 have been withdrawn.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

Page 37, lines 29-30: "U.S. Patent Application Number 09/249,990, filed on February 13, 1999, entitled "Efficient Reduced State Maximum Likelihood Sequence Estimator,"" should be "U.S. Patent Application Number 09/249,990, filed on February 13, 1999, entitled "Efficient Reduced State Maximum Likelihood Sequence Estimator," now U.S. Patent 6,618,451".

Appropriate correction is required.

### ***Claim Objections***

3. Claims 27-28 are objected to because of the following informalities:

Claim 27, line 1: "A computer program product" should be "A computer program stored on a computer readable media".

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Since, "A computer program product" is a computer program comprising instructions and is not a statutory product, unless the computer program is recited in conjunction with a physical structure, such as a computer memory. See MPEP 2106[R-3], IV, B, 1, (a).

As described in the FIG.7 and page 38, the first paragraph of the specification of the current application, the implementations (instructions) may be stored on computer readable media that can be executed on a suitable processor (e.g., processor 702).

Claim 28 depends on the objected claim 27.

Appropriate correction is required.

### ***Allowable Subject Matter***

4. Claims 1-26 and 29-36 allowed.
5. Claims 27-28 would be allowable if rewritten or amended to overcome the objection(s), set forth in this Office action.
6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest, alone or in a combination, among other things, at least a communication device or apparatus and its method as a whole, the combination of elements and features, which includes during a training mode an impairment compensator receiving a sequence of symbols organized into N phases intervals, wherein N is a larger than one integer', grouping the N phases intervals into a set of characteristic groups according to aggregate effects of a periodic impairment in the N phases intervals; selecting a particular one of J distinct constellation indices corresponded to a respective plurality of the phase intervals as recited in the claims.

### ***Conclusion***

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7. This application is in condition for allowance except for the following formal matters: as listed in this Office action.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed H. Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Edith Chang

April 6, 2006

A handwritten signature in cursive script, appearing to read 'Khai Tran'.

**KHAI TRAN**  
**PRIMARY EXAMINER**